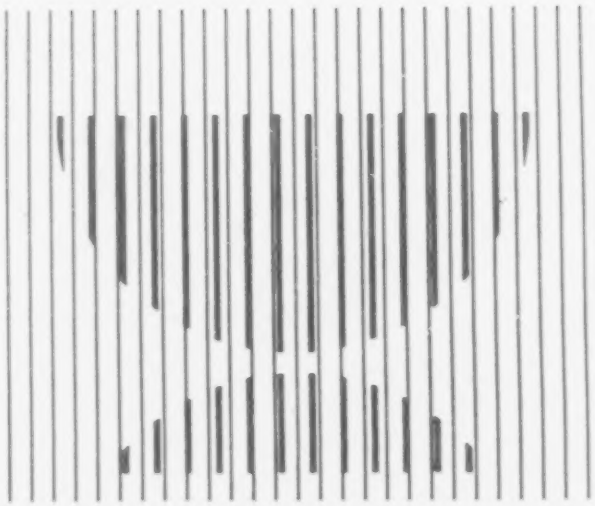
CBO STAFF MEMORANDUM

FISCAL IMPLICATIONS OF THE

ADMINISTRATION'S PROPOSED BASE FORCE

December 1991



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After assessing the dramatic political changes associated with the end of the cold war and the rejection of communism in Eastern Europe and the Soviet Union, the military and political leadership of the Department of Defense developed a new, reduced structure for U.S. military forces termed the Base Force. At the request of the Chairman of the Committee on Armed Services of the U.S. House of Representatives, this Congressional Budget Office (CBO) Staff Memorandum assesses the near and long-term budgetary implications of maintaining and modernizing the Base Force. The analysis deals with the national defense budget as a whole. Three related staff memoranda ("The Costs of the Administration's Plan for the Army Through the Year 2010," "The Costs of the Administration's Plan for the Navy Through the Year 2010," and "The Costs of the Administration's Plan for the Air Force Through the Year 2010") provide the details of CBO's estimates of the long-term costs of the Administration's plan for each military department. In keeping with CBO's mandate to provide nonpartisan analysis, this study makes no recommendations.

A number of people have contributed to the analysis reported here. Neil M. Singer and R. William Thomas wrote this memorandum under the supervision of Robert F. Hale. Barbara Hollinshead analyzed the near-term implications of the Budget Enforcement Act under the supervision of Michael A. Miller. Amy Belasco assisted in verifying the analysis. Frances Lussier and Raymond J. Hall were responsible for the Army analysis; Michael Berger and Raymond J. Hall prepared the analysis of Navy costs; and Lane Pierrot, William P. Myers, and David Mosher performed the Air Force analysis.

INTRODUCTION AND SUMMARY

In its defense plan, submitted in February 1991, the Administration called for reductions in U.S. defense spending between 1992 and 1997. Concurrently the Administration also proposed a new, considerably smaller structure for military forces that it calls the Base Force. The units that make up the Base Force are to be modernized with a variety of new weapons.

The desirability of these plans depends on whether the Base Force and associated modernization plans provide adequate security for the United States in light of global events and expected threats. But the plans will also be judged by their budgetary implications, which are the focus of this memorandum. Analysis of the proposed Base Force has led the Congressional Budget Office (CBO) to the following conclusions:

- The size of the Base Force could probably be maintained through 1997 with the funding that the Administration has projected, although it is likely that there would be some delays in programs for research, modernization, or other activities.

- The Base Force could not be maintained and modernized in the 1993-1997 period if the Congress cuts requested funding significantly--for example, by enough to comply with the limits in last year's budget agreement--while avoiding real cuts in nondefense funding.

- After 1997, substantial increases in spending—from $20 billion to as much as $65 billion by the middle of the next decade—could be needed to carry out the planned modernization of the Base Force.[1]

- Any revision of the Administration's defense spending plan should consider this problem of long-term costs, lest the problem be made worse.

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1. See CBO Staff Memoranda, "The Costs of the Administration's Plan for the Navy Through the Year 2010," "The Costs of the Administration's Plan for the Army Through the Year 2010," and "The Costs of the Administration's Plan for the Air Force Through the Year 2010" for details.

RELATION OF THE BASE FORCE TO THE BUDGET

The Administration has requested budget authority of $291 billion for national defense in 1993 and $305 billion in 1997.[2] After adjustment for inflation, this request represents a real decline of 11 percent between 1993 and 1997. Compared with 1990, the requested 1997 budget would be 26 percent lower in real terms.

Operating and support costs, which make up about 59 percent of the Department of Defense (DoD) budget in 1997, are directly related to the number of units in the Base Force. Under Administration plans, the number of military units would be reduced to the Base Force level by 1995. In that year and beyond (see Table 1) the Base Force would include 12 active Army divisions (down 33 percent from the 1990 level), 15.5 active Air Force tactical fighter wings (down 35 percent), and 448 Navy battle force ships (down 18 percent).[3] The Base Force would be manned by 1.63 million active-duty military personnel (down 21 percent from the 1990 level) and 940,000 full-time civilians (down 12 percent). Selected reserve units would also be reduced in number as reserve personnel decrease from 1.12 million to 0.91 million, a reduction of about 20 percent. The active and reserve units that make up the Base Force would be grouped into four major categories: strategic, Atlantic, Pacific, and contingency forces.

The investment portions of the defense budget are not as directly related to the number of units in the Base Force as are operating and support costs. The number of units often determines how many weapons must be bought eventually, but annual purchases depend more on the maturity of replacement weapons and their costs. Investment costs are also affected by decisions about how much to invest in research. For 1993 through 1997, the Administration has stated its plans for research and modernization in its Future Years Defense Plan (FYDP). In analyzing the financial implications of the Administration's planned Base Force, CBO assumed that all the FYDP plans for modernization and research will be carried out.

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2. Estimates in 1997 exclude the reduction in budget authority associated with a proposed change in accrual accounting and so exceed Administration figures by about $3 billion. In the absence of specific budgetary projections for Department of Energy military-related programs, spending in 1997 has been assumed to equal projected funding for 1996.

3. The Administration plan calls for the number of Navy ships to fall to 451 by 1995 and 448 by 1997. The number could decrease further in later years because some older ships will not be replaced on a one-for-one basis.

TABLE 1. MILITARY FORCES UNDER THE ADMINISTRATION'S PLAN

	Forces		Percentage Reduction
	1990	1997 (Base)[a]	
Active Forces			
Ground Forces			
Army divisions	18	12	33
Marine brigades	9	7[b]	22
Naval Forces			
Aircraft carriers	13	12	8
Carrier air wings	13	11	15
Ships[c]	545	448	18
Air Force			
Tactical fighter wings	24	15.5	35
Strategic Forces			
Land-based ICBMs	1,000	550	45
Sea-launched ballistic missiles	608	432	29
Strategic bombers (PAA)	228	181	21
Reserve Forces			
National Guard Divisions	10	6	40
Marine Brigades	3	3	0
Carrier Air Wings	2	2	0
Tactical Fighter Wings	12	11	8

SOURCE: Statement of General Colin Powell before the House Appropriations Committee, Subcommittee on Defense, September 25, 1991, except as noted.

NOTE: ICBM = intercontinental ballistic missile; PAA = primary authorized aircraft.

a. Forces planned for 1997 by the Administration.

b. Estimated by Congressional Budget Office based on U.S. Marine Corps personnel reduction.

c. Includes reserve forces ships.

REQUESTED DOLLARS COULD SUPPORT BASE FORCE IN 1993-1997

If the Department of Defense receives all the funding that the Administration has requested through 1997, it should be able to maintain the size of its planned Base Force through that year. But DoD may have to delay some of its plans for research, modernization, or other activities in order to offset unanticipated growth in certain categories of costs.

Possible Sources of Cost Increases

In 1993 through 1997, the costs of maintaining and modernizing the Base Force might grow beyond the Administration's current estimates. Those estimates assume that management improvements recommended by the Defense Management Review (DMR) would produce savings of about $70 billion in the 1992-1997 period. But the General Accounting Office (GAO) has noted that DMR estimates of savings are based primarily on management judgments, rather than historical facts or empirical cost data. GAO concluded that some of the anticipated DMR savings may not be realized.[4] GAO also suggests that base closures may yield smaller savings than expected. In addition, press reports suggest that the costs of certain DoD weapons programs are growing, which could result in pressure on the budget. Costs for environmental cleanup also could increase above planned levels.

Overhead costs could also exceed DoD's projections. Overhead costs are those operating costs that cannot be allocated directly to military units--for example, portions of the cost of training, medical care, and administration. CBO's analysis suggests that DoD is assuming it can reduce spending for overhead activities in proportion to the savings it achieves in direct operating costs.[5] If history is a guide, however, DoD may have trouble achieving proportional cuts in overhead costs in the 1993-1997 period, during the drawdown. In the period after the Vietnam War, proportional cuts in overhead activities were eventually achieved, but only after the drawdown in forces was complete. On the basis of this experience, total operating costs in the 1993-1997 period could well exceed Administration projections.

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4. General Accounting Office, "Observations on the Future Years Defense Program," April 1991, pp. 3-4.

5. See testimony of Robert F. Hale before the Committee on Armed Services of the U.S. House of Representatives, March 19, 1991, pp. 15-18.

Some Congressional actions could also result in higher costs. While neither House has proposed more total spending than the Administration requested for 1992, both have approved policies—for example, maintenance of larger reserve forces—that could increase costs in the years beyond 1992 unless the Congress imposes offsetting reductions in other categories of defense spending.

Size of Cost Increases

CBO cannot estimate exactly how much the costs of maintaining and modernizing the Base Force may exceed the Administration's current estimates for the 1993-1997 period. It is certainly possible that costs could grow by several tens of billions of dollars. It appears likely, however, that overall cost growth will amount to no more than a few percent of the approximately $1.4 trillion that the Administration is requesting for DoD funding in the 1993-1997 period. This relatively small percentage suggests that DoD could accommodate cost increases without reducing the number of military units in the Base Force. For example, the Department could offset cost increases by slowing its plans for modernization or research. Alternatively, the Department could reduce funding in those portions of the operating budget that are least directly related to military readiness. With changes such as these, it seems reasonable to conclude that the size of the Base Force can be maintained with the funding requested for 1993 through 1997.

REDUCED FUNDING WOULD THREATEN BASE FORCE

It is also clear, however, that significant reductions in funding would prevent the Administration from maintaining its planned Base Force. Despite the failed Soviet coup and subsequent changes in the Soviet Union, the Secretary of Defense has argued against any additional cuts in defense spending below the level of the Administration's plan. But a number of other senior policymakers have suggested that additional cuts might be made. The chairman of the House Armed Services Committee has stated that the United States can reduce its defense spending if "the demise of the Soviet military colossus is irreversible."[6] The chairmen of the House and Senate Budget Committees have proposed additional cuts in the defense budget, as has the

6. Representative Les Aspin, "The Coming Defense Debate," delivered before the House of Representatives, October 3, 1991, p. 5.

chairman of the Senate Finance Committee.[7] Even President Bush seemed to suggest that additional cuts in defense spending were possible when he stated that changes in the Soviet Union provide "an opportunity for a vastly restructured national security posture."[8] To date, however, the President has not suggested additional spending cuts, except for the relatively modest reductions associated with his proposed reductions in U.S. nuclear forces.[9]

The effects of additional spending cuts on the Base Force depend, of course, on the size of the reductions. While CBO cannot forecast their size, the range of possible cuts can be estimated if the Congress elects to continue abiding by the Budget Enforcement Act (BEA) of 1990, which codified last year's budget agreement.

Possible Defense Cuts Under the Budget Enforcement Act

The BEA establishes separate caps on spending for defense, international affairs, and domestic activities in 1992 and 1993. For 1994 and 1995, the BEA sets one cap on total discretionary spending, which means that defense must compete with these other activities for funding. The caps on total spending are tight in 1994 and 1995. Real budget authority for discretionary functions must fall by about 5 percent in 1994 and by another 3 percent in 1995 to comply with the BEA. Two scenarios illustrate the possible effects of these tight caps on defense funding.[10]

The first scenario assumes acceptance of the Administration's defense request, which incorporates a real reduction of about 3 percent per year in budget authority for national defense in 1994 and 1995. This scenario should permit the Administration to maintain the size of the proposed Base Force. The scenario would require, however, that budget authority for nondefense activities undergo a real reduction below its 1993 level of about 7 percent in 1994 and another 3 percent in 1995.

Cutting nondefense discretionary spending, as the Administration proposes, would be difficult and certainly would not be consistent with past

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7. News release from House Budget Committee, October 7, 1991; remarks by Senator Jim Sasser at a press conference, October 23, 1991; and statement by Senator Lloyd Bentsen, October 20, 1991.

8. Ann Devroy, "Bush: Defense Restructuring Possible," *Washington Post*, August 30, 1991, p. 1.

9. Congressional Budget Office, *The START Treaty and Beyond*, October 1991, pp. 70-72.

10. For further discussion of these scenarios, see testimony of Robert D. Reischauer before the Senate Committee on the Budget, July 16, 1991.

trends. Spending for these activities has exhibited a real rate of growth, averaging 3 percent a year for the last 30 years.

While not matching this historical rate, the second scenario maintains real budget authority for nondefense programs constant at its 1993 level and takes all the cuts needed to comply with the BEA from the defense budget. Compared with the Administration's proposed defense funding, this budget path would require that defense budget authority be reduced by about $17 billion, or 6 percent, in 1994 and by at least $24 billion, or 8 percent, in 1995 (see Table A-1 in the appendix to this memorandum). These reductions would comply with the BEA caps for budget authority, but not for outlays. To meet the outlay caps, substantially larger reductions in budget authority would be necessary, as described below.

Effects on the Base Force

To achieve the reductions required under this second scenario, cuts in defense budgets theoretically would not have to begin until 1994. However, waiting until 1994 could result in severe cutbacks in personnel. For example, if no cuts were made until 1994, and all defense appropriations were then reduced proportionately, achieving the required outlay cuts would necessitate a reduction of 425,000 active-duty military personnel in a single year.[11] To avoid such a large cut--almost as large as the cut the Administration proposes for the entire five-year period--reductions would have to begin in 1993.

Proportional Cuts. Even if they begin in 1993, the cuts would necessitate significant changes in the defense program. Assuming that reductions are achieved through proportional cuts in budget authority for each defense appropriation, total defense budget authority under this second scenario would be reduced below the Administration's request by $27 billion (9 percent) in 1995 and by a total of $58 billion (7 percent) in the 1993-1995 period (see Table 2).

Under this approach, investment funds (which include procurement, research, and military construction) would be reduced by $12 billion (9 percent) in 1995 and by a total of $25 billion (7 percent) in the 1993-1995 period. Achieving these additional cuts in investment might require canceling

11. For further discussion, see testimony of Robert F. Hale before the Senate Committee on the Budget, July 16, 1991.

TABLE 2. REDUCTIONS BELOW THE ADMINISTRATION'S PROPOSAL IN NATIONAL DEFENSE BUDGET AUTHORITY UNDER PROPORTIONAL CUTS
(In billions of dollars)

	Fiscal Year			
	1993	1994	1995	1993-1995
Operating Appropriations				
Military personnel	3.0	4.8	6.9	14.8
Operation and maintenance	3.3	5.3	7.8	16.4
Other	0.4	0.9	1.1	2.3
Subtotal	6.7	10.9	15.8	33.4
Investment Appropriations				
Procurement	2.6	4.3	6.8	13.7
RDT&E[a]	1.6	2.5	3.4	7.5
Military construction	0.1	0.4	0.6	1.2
Atomic energy defense activities[b]	0.3	0.5	0.8	1.6
Subtotal	4.7	7.8	11.6	24.1
Totals to Meet Outlay Caps	11.4	18.8	27.4	57.5
Amounts Required to Meet Budget Authority Caps	0	16.5	24.4	40.9

SOURCE: Congressional Budget Office.

NOTES: Totals may not add because of rounding.

Numbers in this table assume that Budget Enforcement Act caps on outlays are met without reducing budget authority for nondefense discretionary spending below its real level in 1993. Numbers assume that defense cuts begin in 1993 and that proportional cuts are made in each appropriation.

a. RDT&E = research, development, test, and evaluation.

b. Environmental restoration activities are included in "other" category.

a number of larger defense procurement and research programs and slowing acquisition of other weapons systems. It might also be necessary to reduce procurement of items other than major systems. (Table A-2 in the appendix lists some examples of specific reductions, together with potential savings.)

This approach would also preclude maintaining the Base Force. By 1995, the number of active-duty personnel would be lower than under the Administration's request by about 120,000 people, or 7 percent. If these additional personnel cuts were distributed proportionally among the military services and combat forces, the number of active and reserve Army divisions would fall to 19 (from the planned level of 20 under the Base Force). Air Force tactical fighter wings would decrease by two (from 26) while the number of Navy ships would drop by 32 (from 451). Strategic forces would also be reduced by about 7 percent.

Investment-Heavy Cuts. To minimize effects on the Base Force, additional defense budget reductions could be achieved primarily through cuts in investment funds. Assume, for example, that reductions in active-duty personnel in any one year are limited to no more than 105,000 people, which is roughly the reduction authorized for 1992. Assume also that the other portions of defense operating funds are reduced in proportion to the cuts in active-duty personnel. Then the rest of the required reductions would have to be achieved through reductions in funds available for investment.

The effects on the investment appropriations are more pronounced under this approach than in the proportional case. Budget authority for investment would be reduced $24 billion (20 percent) below the Administration's request in 1995. That would surely necessitate delaying or canceling a number of weapons programs (see Table A-2 for examples). An investment-heavy approach would also intensify concerns about the adequacy of the defense-industrial base.

Total budget authority for defense would be reduced below the Administration's proposal by $29 billion in 1995 (10 percent) and by a total of $69 billion (8 percent) in the 1993-1995 period (see Table 3). These reductions are larger than those under the proportional case because reductions in budget authority for investment do not generate outlay cuts as quickly as reductions in budget authority for operations and personnel.

Moreover, even this investment-heavy approach would not permit the entire Base Force to be maintained. By the end of 1995, the active-duty personnel level would be about 82,000, or 5 percent, lower than the level

TABLE 3. REDUCTIONS BELOW THE ADMINISTRATION'S PROPOSAL IN NATIONAL DEFENSE BUDGET AUTHORITY UNDER INVESTMENT-HEAVY CUTS (In billions of dollars)

	Fiscal Year			
	1993	1994	1995	1993-1995
Operating Appropriations				
Military personnel	0.2	0.9	2.1	3.3
Operation and maintenance	0.3	1.0	2.4	3.6
Other	0.4	0.8	0.9	2.2
Subtotal	0.9	2.7	5.4	9.1
Investment Appropriations				
Procurement	8.3	12.2	13.7	34.2
RDT&E[a]	5.1	7.1	6.9	19.1
Military construction	0.5	1.2	1.2	2.9
Atomic energy defense activities[b]	1.0	1.5	1.6	4.1
Subtotal	14.8	22.1	23.4	60.3
Totals to Meet Outlay Caps	15.8	24.8	28.8	69.4
Amounts Required to Meet Budget Authority Caps	0	16.5	24.4	40.9

SOURCE: Congressional Budget Office.

NOTES: Totals may not add because of rounding.

Numbers in this table assume that Budget Enforcement Act caps on outlays are met without reducing budget authority for nondefense discretionary spending below its real level in 1993. Numbers assume that defense cuts begin in 1993 and that cuts are made emphasizing the investment appropriations.

a. RDT&E = research, development, test, and evaluation.

b. Environmental restoration activities are included in "other" category.

under the Administration's proposal (see Table 3). The number of Army divisions could decline to about 19 (compared with 20 under the Base Force). Air Force tactical fighter wings could decrease to 25 (compared with 26) and Navy ships to 428 (compared with 451).

In summation, if the Congress elects to make substantial cuts in defense spending--for example, cuts sufficient to abide by last year's budget agreement while avoiding real cuts in nondefense spending--the Base Force could not be maintained and modernized as the Administration plans.

BASE FORCE WOULD COST MORE BEYOND 1997

Moreover, even if enough funds are made available through 1997, substantial increases in funding could be required in the years beyond 1997 to maintain and modernize the Base Force under the Administration's plans. Of course, the Administration's plans may well be altered in the wake of events in the Soviet Union. How those plans are altered will determine whether long-term cost increases can be avoided.

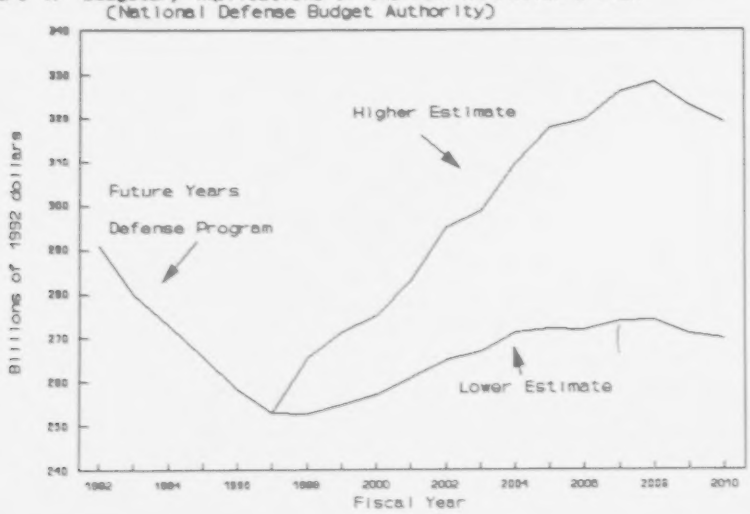
Likely Size of Budget Increases

In order to identify the long-term costs associated with maintaining and modernizing the Base Force under the Administration's current plans, CBO estimated costs through the year 2010. The Administration has not publicly stated all of its defense plans for the years beyond 1997. To fill in the gaps, CBO made assumptions about these long-term plans that are consistent with statements made by the Administration and the military services.

Based on these assumptions, CBO estimates that defense costs would grow modestly in real terms through the turn of the century. By the middle of the next decade, however, the total annual cost for national defense activities could exceed by $20 billion the level of funding planned for 1997 (under CBO's lower estimate of costs--see Figure 1) or by as much as $65 billion (under the higher estimate). (All long-term cost estimates are in constant 1992 dollars of budget authority.) In the year 2010, the increase over planned 1997 funding could range between $17 billion and $66 billion. The lower estimate of costs assumes that policies will be adopted to hold down costs of weapons and research. The higher estimate assumes increases in the cost of weapons acquisition, which is more consistent with past experience.

Defense Secretary Dick Cheney appears to agree that costs will eventually increase, but not necessarily according to CBO's estimates of the amount or

Figure 1. Budgetary Implications of the Administration's Plan (National Defense Budget Authority)



timing of the increase. While testifying before the House Budget Committee on July 31, 1991, Secretary Cheney was asked whether DoD's budget would have to increase to maintain and modernize the Base Force. He first emphasized that long-term budget projections are always uncertain. But he also stated that budgets to support the Base Force "will require some real growth in the outyears. Now exactly when we hit that point, I will probably have a better idea when we come back up with the amended fiscal year 1993 budget in January of 1992."[12]

Much of the growth in spending to maintain and modernize the Base Force would occur because major new weapons are expected to cost substantially more than the weapons they replace. The Navy's AX aircraft, for example, will probably be three times as expensive as the A-6 aircraft it would replace. The Army's new tank could cost at least 85 percent more, and the Air Force's F-22 aircraft at least 90 percent more. It is likely that these large increases will more than offset savings from planned reductions in the number of forces. Measured in terms of active-duty personnel cuts, these force reductions amount to about 21 percent between 1990 and 1995.

Long-term cost growth would vary among the services. Under either the lower or the higher estimate of costs, the Navy and Air Force would experience the largest budgetary growth (see Figures A-1 and A-2 in the

12. "O'Keefe Disputes CBO Claims That DoD Budgets Cannot Support New Weapons," *Inside the Pentagon*, October 10, 1991, p. 17.

appendix). The Army's growth would be smaller. These different patterns of growth suggest that the share of the total budget allocated to the various services might change if the Base Force is maintained and modernized.

Defining the Administration's Plan Beyond 1997

CBO's estimates of long-term costs assume that, with few exceptions, the Administration intends to keep constant the number of forces after 1997 (see Table A-3 for details of CBO's force assumptions). This assumption seems consistent with statements by General Colin Powell, Chairman of the Joint Chiefs of Staff, who reiterated in September his view that the Base Force is the minimum force that can meet the continuing security needs of the United States.[13]

CBO also assumed that the Administration will modernize its planned forces, either with weapons systems now in production or with systems that have entered or soon will enter development. For example, during this decade and the next, it is assumed that the Navy will continue to buy the SSN-21 submarine (or its successor, the Centurion), the DDG-51 destroyer (or a cheaper replacement), and the F/A-18 and AX tactical combat aircraft. During the next decade, it is also assumed that the Navy will purchase small numbers of new planes to begin replacing some existing carrier support aircraft (S-3s, E-2Cs, and EA-6Bs) and land-based antisubmarine warfare aircraft (P-3s). It is assumed that the Army will develop and buy its planned family of armored vehicles, which includes a new tank and infantry fighting vehicle as well as associated battlefield support vehicles. CBO also assumed that the Air Force will complete its planned acquisition of B-2 bombers and C-17 transport aircraft and will develop and buy the F-22 fighter, the multirole fighter, and the Small Intercontinental Ballistic Missile (but not with mobile launchers). Consistent with the Administration's Strategic Defense Initiative program, extensive defenses against ballistic missiles would be deployed. In most cases, the Administration has specified when these various programs would begin, and CBO's estimates reflect this planned timing. Wherever possible, the size of the planned purchases of weapons also reflect stated Administration plans. (More details about the timing and size of planned purchases of major weapons are provided in Table A-4 in the Appendix.)

The extent to which the Administration's plan would modernize the Base Force by the end of CBO's projection period varies by weapons system. For example, under the plan, by the year 2010 most of the Air Force's F-15 fleet

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13. General Colin L. Powell, presentation to the Subcommittee on Defense of the House Appropriations Committee, September 25, 1991, p. 2.

will have been replaced by the F-22 aircraft. But the new tank will not have fully modernized the Army's tank inventory. Nor will enough AX aircraft have been purchased to replace all the older A-6 planes, and only a small fraction of some types of carrier-based aircraft (S-3s, E-2Cs, EA-6Bs) will have been modernized.

Uncertainty in Long-Term Projections

Important uncertainties are inherent in these estimates of long-term costs. Some of the uncertainties are reflected in the difference between the lower and higher estimates of costs. The lower estimate assumes that DoD will be successful in its announced intent to streamline the acquisition process and hold down unanticipated cost increases. In this estimate, the unit costs of major new weapons do not expand above planned levels; in some cases those plans envision new weapons that are actually cheaper than those being bought today (see Table A-5 for estimates). Detailed long-term plans for other investment activities, including procurement of nonmajor weapons (those not meeting the criteria for major systems), other equipment, and the costs of research and development activities, are not available. The lower estimate assumes that costs for those activities are based on spending in the recent past, adjusted in some cases to reflect the planned reduction in the number of forces.

The higher estimate of costs reflects the possibility of growth in the costs of procuring nonmajor weapons as well as in the costs of research and development. Thus, the higher estimate assumes that, as has been the case, the cost of procuring nonmajor weapons and equipment increases as the cost of buying major weapons grows, and that research and development costs grow in proportion to the total budget. The higher estimate also assumes that the unit costs of new weapons increase above levels now planned by amounts that are consistent with past experience (see Table A-5). In most cases, the assumed real cost growth ranges between 20 percent and 25 percent for weapons already in or nearing full-scale development, rising to 50 percent for weapons that are in earlier stages of development.[14]

Other uncertainties are not incorporated in either the higher or lower estimates. Some uncertainties could be resolved in ways that push up long-term costs. Both estimates assume that the cost of operating a particular type of military unit remains roughly constant at its current level. But the Administration plans to introduce new and more complex weapons into the

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14. Estimates of cost growth include growth from all factors, including some that are not fully under the control of the Defense Department.

inventory, which could push up operating costs. Moreover, CBO's estimates may not fully take into account the increased costs of some types of defense activities, notably enhanced capabilities in space, because plans for these activities are highly classified. Nor are the services assumed to make up for current force deficiencies, such as shortfalls in Navy aircraft. Other policies could reduce costs below those calculated under either of CBO's estimates. For example, CBO's estimates are based on apparent Administration plans for retiring such aircraft as the F-16 and S-3. In the face of reduced threats to U.S. security, these aircraft may actually be retained in the inventory for longer periods than are now planned, thus reducing costs. Although it has rarely happened in the past, the Administration might hold down long-term costs by developing new weapons systems and then not buying them. Finally, it is possible that new weapons designs will reduce operating costs. (Table A-6 summarizes key uncertainties in the estimates.)

There are probably as many uncertainties that could raise costs as those that might lower them. Thus, the range of estimates in Figure 1 should provide a reasonable guide to the long-term outlook for defense costs if the Base Force is maintained and modernized according to publicly available Administration plans and statements. That outlook suggests that, if defense budgets remain constant in real terms at the planned 1997 level, there will not be enough money to carry out all of the Administration's plans.

What Should Be Done About Future Budget Shortfalls?

With all the problems of the moment, does the Congress really need to worry now about defense budget shortfalls that would not grow to substantial levels until the next decade? The answer is yes, because decisions that will be made in the next few years could have an important influence on the severity of these long-term problems.

Follow Current Plans. As it debates the Administration's defense plan and alternative proposals, the Congress could address problems of long-term costs in one of several ways. It could permit DoD to develop all its planned new weapons. Depending on future budget levels, the most needed of these new weapons could then be purchased, and the other programs could be canceled.

In the past, however, it has been extremely difficult for the Administration or the Congress to decide to cancel major new weapons systems once they have been fully developed. Moreover, not one but many new systems would have to be canceled in order to avoid future funding shortfalls, particularly if history repeats itself and the cost of those weapons that are purchased grows beyond the levels now projected. In a period of declining defense budgets,

pursuing all these new systems, then canceling a large number of them, would mean spending billions of dollars to develop weapons that will never be bought.

Formulate a New Plan. It would be better if a plan were formulated now that offers a high probability of being affordable in the future. In reviewing such a plan, the Congress would have to consider carefully policy initiatives that could worsen long-term shortfalls in funds. For example, if the Congress decides to replace older Marine Corps helicopters with substantial numbers of the expensive V-22 aircraft, or if it mandates continued purchase of substantial numbers of new or upgraded tanks, the shortfall in procurement funding could exceed that which results from implementing the Administration's plan. The V-22 aircraft, new tanks, and similar systems may be needed to meet security threats, but their utility must be weighed against their effects on the long-term budget mismatch that DoD faces.

The Department of Defense would also have to change its plans substantially in order to avoid budget shortfalls. Trimming the number of military units represents one possible change. Reductions in threats to U.S. security may permit DoD to reduce U.S. military forces by more than is currently planned. Indeed, press reports suggest that the Department is now talking about including further reductions in forces in the 1993 budget request. But modest force reductions by themselves will probably not completely resolve long-term cost problems.

Reductions in forces and future threats may permit DoD to cancel some new weapons systems altogether, an action that could substantially reduce long-term funding shortfalls. The Department has canceled many weapons systems in recent years, but most of them have been older systems that would have been phased out soon anyway. Long-term procurement costs will be reduced only if new, expensive systems are canceled. The Administration has proposed canceling the new V-22 aircraft, and the Congress may cancel further procurement of the new B-2 bomber. But the difficult and continuing debates over these two systems, and the small number of cancellations that are even debated, suggest that it will be hard to control long-term procurement costs simply by eliminating large numbers of new weapons systems.

The services could also develop new weapons systems that cost little more than those they are to replace, or perhaps even design cheaper weapons. The Air Force has stated that it wants the multirole fighter to cost only about 30 percent more than the F-16 aircraft that it will replace, which by past standards would represent remarkably modest growth for a new aircraft. The Navy has announced plans to develop cheaper successors to the DDG-51

destroyer and SSN-21 submarine. If the other services follow suit for selected weapons, the potential shortfall of procurement funds could be substantially reduced. But new weapons systems have almost always cost more than their predecessors, often much more. This pervasive pattern of cost growth is only likely to be reversed if senior officials in the Administration and the Congress exert continued pressure.

Keeping existing weapons systems longer may represent a promising approach to holding down long-term costs. In view of decreased threats to U.S. security, the services could elect to delay retirement of existing weapons systems, thereby postponing the point when new systems must enter production and reducing the number that must be bought. The Air Force may consider delaying the retirement of existing F-16 aircraft, which would reduce requirements for the new multirole fighter. A variant of this approach would involve keeping older systems longer while upgrading their capability. According to press reports, the Army is considering just such a step for its tank forces. By the middle and latter part of the next decade, the Navy must buy substantial numbers of P-3 and S-3 aircraft if its planned forces are to be maintained, and the Marine Corps will need replacements for its AV-8B planes. Upgrading existing aircraft to extend their lives and improve their performance, rather than buying new planes, would hold down long-term procurement costs.

But while these steps may seem like simple solutions to potential funding shortfalls, they could have far-reaching consequences. Assume, for example, that the Air Force delays retirement of its F-16 aircraft until they reach the end of their engineering service life at 28 years, rather than retiring them after 22 years, as has been planned in the past.[15] Such a delay might permit the service to buy only about 42 of the new multirole fighters a year during the latter part of the next decade. Under these policies, the age of tactical aircraft in the Air Force would average 18 years by the end of the next decade, compared with an average age of about 10 years today. Such a sharp growth in average age would certainly raise Air Force concerns about its ability to maintain a much older fleet, and about maintaining technological superiority over possible opponents. Before significant delays in retirement can be counted on as a means of avoiding future funding shortfalls, their merits must be fully debated.

Buying fewer of the most expensive new weapons systems represents another policy that could help reduce future procurement costs. Under this "silver bullet" concept, the services would buy fewer of the most capable and

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15. CBO assumed as well that the Air Force retains other aircraft in its tactical fighter forces for longer periods.

most expensive weapons and more of the cheaper systems. For example, the Navy might equip only about 10 percent of its tactical air forces with the AX aircraft. Current plans would equip one-quarter to one-third of forces with these capable but expensive planes. In a war, the small number of highly capable aircraft would be used against the most heavily defended targets, as the F-117 aircraft was used in the Persian Gulf War. The silver bullet approach permits continued development of advanced weapons, thus maintaining U.S. technological prowess, but reduces the overall procurement bill. Earlier CBO analyses found that silver bullet purchases of AX and F-22 aircraft would substantially reduce future procurement costs if the rest of the tactical air forces were equipped with relatively low-cost planes.[16] This approach is not without disadvantages. The few aircraft that are bought are much more costly, although the cost for the total program is reduced.

Many of the foregoing changes would require that the services make difficult choices over a period of many years. Such decisions are likely to be carried out only if there is a commitment to the changes on the part of the services and the Department of Defense, coupled with continuing oversight by the Congress.

Need to Focus on Long-Term Costs. Recent reductions in the threats to U.S. security, and an accompanying desire to reduce defense spending, make it almost certain that the Congress will debate proposals calling for large cuts in the Administration's proposed levels of defense spending. The preceding examples suggest the kinds of policy changes that could be included in a revised defense plan to minimize or avoid future shortfalls in funds. The examples do not reflect all the changes that will be debated. But they illustrate many of the changes that would most affect procurement funding.

It is important to realize, however, that defense plans could also be revised in ways that worsen future funding shortfalls. For example, budget cuts could be accommodated by limiting reductions in the number of military forces, and hence in requirements for new weapons. Cuts in procurement funds could be achieved by delaying expensive new weapons systems rather than by canceling them or reducing the total number of weapons that are bought. While saving money in the near term, these strategies could increase the size of potential shortfalls in funding in the next decade, perhaps substantially.

The risk of making the problem worse suggests the need to keep long-term costs firmly in mind when revising the current defense plan. The revised

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16. See testimonies of Robert F. Hale before the Senate Committee on Armed Services (April 22, 1991) and before the Defense Subcommittee of the Senate Appropriations Committee (May 8, 1991).

plan must balance many conflicting objectives. Long-term affordability should be one of them if the new plan is to provide a guide to defense procurement into the twenty-first century.

APPENDIX

TABLE A-1. DERIVATION OF ADDITIONAL DEFENSE CUTS
(In billions of dollars)

Type of Spending	1994 Budget Authority	1994 Outlays	1995 Budget Authority	1995 Outlays
Budget Enforcement Act Caps on Total Discretionary Spending	518.1	537.6	525.0	543.0
Nondefense Spending Assuming No Real Budget Authority Cuts After 1993[a]	239.1	261.2	250.9	272.8
Spending Available for National Defense With No Real Nondefense Cuts[b]	279.0	276.5	274.1	270.3
National Defense Spending Under Administration's Proposal[b]	295.5	290.4	298.5	291.9
Reductions Below Administration's Proposal to Match Available Funds[b]	16.5	13.9	24.4	21.6

SOURCE: Congressional Budget Office.

NOTE: Totals may not add because of rounding.

a. Includes both domestic discretionary and international spending. Taken from Scenario 2 in the testimony of Robert D. Reischauer before the Senate Budget Committee, July 16, 1991.

b. These numbers reflect the discretionary portion of the national defense function as estimated by CBO. The CBO reestimates of the Administration's proposal assume no change in pay dates or in accounting for the accrued cost of military retirement.

TABLE A-2. SAVINGS UNDER ILLUSTRATIVE OPTIONS THAT REDUCE INVESTMENT SPENDING (In billions of dollars)

Option	Reduction Compared With Administration Proposal		
	1993	1994	1995
Reduce Funding for Modernization of Armored Systems[a]	0.5	0.6	0.4
Cancel C-17 Airlift Aircraft[a,b]	4.2	4.0	4.0
Terminate Production of New B-2 Bomber	1.9	4.9	5.4
Reduce Spending for Strategic Defense Initiative[a]	3.2	3.5	4.1
Cancel National Aerospace Plane[a]	0.3	0.3	0.3
Cut Development and Testing of Nuclear Warheads by One-Third[a]	1.5	2.5	3.0
Cancel F-22 Program[b]	2.3	2.5	2.3
Cancel Purchase of Aircraft Carriers	0.9	0.0	3.3
Cancel SSN-21 Submarine Program[b]	2.7	2.8	2.9
Reduce Nonmajor Procurement by 20 Percent[c]	4.4	4.6	4.5
Reduce RDT&E Funding (Less SDI/TMDI) to 1976-1991 Share[d]	6.0	4.6	1.0

SOURCE: Congressional Budget Office.

NOTE: These options are presented as illustrations, not as recommendations.

a. For a discussion of pros and cons, see Congressional Budget Office, *Selected Spending and Revenue Options* (June 1991).

b. Some of the savings might have to be devoted to purchases of other systems to meet mission needs.

c. Nonmajor procurement is defined here as the "other procurement" accounts, Army ammunition, and defense agency procurement.

d. This option reduces funding for research, development, test, and evaluation (RDT&E) to 10 percent of the national defense budget, its average share in 1976 through 1991. The option assumes that the total national defense budget is at the level suggested in the illustrative example in this memorandum (with current caps). RDT&E for the Strategic Defense Initiative (SDI) and the Tactical Missile Defense Initiative (TMDI) is assumed to be unchanged under this option.

TABLE A-3. FORCE LEVELS UNDER THE ADMINISTRATION'S PLAN

	Base Force 1997	CBO Projection 2010
Ground Combat Forces		
Army Divisions		
Active	12	12
Reserve	8	8
Marine Divisions		
Active	3	3
Reserve	1	1
Naval Forces		
Carrier Task Forces	12	12
Carrier Air Wings	13	13
Major Surface Combatants	158	150
Attack Submarines	74	80
Ballistic Missile Submarines	18	18
Amphibious Warfare Ships	54	38
Air Forces		
Marine Air Wings		
Active	3	3
Reserve	1	1
USAF Tactical Fighter Wings		
Active	15	15
Reserve	11	11
Strategic Bombers (TAI)[a]	215	267
Strategic Airlift Aircraft (PAA)[b]	396	396
Ballistic Missiles		
Land-based	550	901
Sea-launched	432	432

SOURCE: Congressional Budget Office based on Department of Defense data.

a. Total aircraft inventory.
b. Primary authorized aircraft.

TABLE A-4. PROCUREMENT OF MAJOR WEAPONS UNDER ADMINISTRATION'S PLAN, AS ESTIMATED BY CBO
(In billions of 1992 dollars)

	FYDP 1993-1997	1998-2010	Maximum Annual Rate	Program Timing
		Army		
Tanks	0	2,520	260	Begins in 2000
Infantry Fighting Vehicles	0	1,750	200	Begins in 2001
Attack Helicopters	0	1,464	120	Begins in 1997
		Navy		
Carriers	1	3	1	
Destroyers	17	38	4	New class in 2002
Attack Submarines	6	39	4	Centurion in 2002
Ballistic Missile Submarines	0	6	2	Begins in 2006
Attack Aircraft	0	300	36	AX begins in 2001
F/A-18 and Successor Aircraft	300	492	84	
Carrier-Based Support Aircraft (Including EA-6, E-2, S-3, ATS)	6	102	12	Begins in 2002
Land-Based Patrol Aircraft	0	261	30	Begins in 2000
		Air Force		
Tactical Combat Aircraft				
F-22	8	552	48	
Multirole Fighter	0	1,000	150	Begins in 2004
B-2 Bombers	47	9	11	Ends in 1998
Airlift Aircraft				
C-17	78	26	18	
C-130	60	156	12	
Small ICBM	0	620	60	Begins in 1999

SOURCE: Congressional Budget Office based on Department of Defense data.

NOTE: FYDP = Future Years Defense Program; ICBM = intercontinental ballistic missile.

TABLE A-5. AVERAGE UNIT PROCUREMENT COSTS ASSUMED BY CBO
(In millions of 1992 dollars)

	Lower Estimate	Higher Estimate
Army		
Block 3 Tank	6	8
Future Infantry Fighting Vehicle	3	5
RAH-66 Helicopter	15	19
Navy		
Carrier	4,000	4,900
Destroyer	600	850
Attack Submarine	1,400	2,000
Ballistic Missile Submarine	1,400	1,700
A-X Attack Aircraft	100	160
F/A-18 Follow-on Aircraft	60	75
Carrier-Based Support Aircraft (ATS)	70	100
Land-Based Patrol Aircraft	50	60
Air Force		
Advanced Tactical Fighter	80	110
Multirole Fighter	35	50
Strategic Bomber	540	540
C-17 Airlift Aircraft	225	225
Small Intercontinental Ballistic Missile	35	55

SOURCE: Congressional Budget Office based on Department of Defense data.

TABLE A-6. KEY CHANGES IN ASSUMPTIONS THAT COULD INCREASE OR DECREASE COSTS

CBO Assumption	Alternative Assumption
Increase Costs	
Little or no changes in real unit operating cost	Operating costs increase because of more complex equipment
No new aircraft bought to replace C-130 aircraft	Advanced Tactical Transport aircraft bought as C-130 replacement
Army utility helicopters modified but not replaced	New helicopter bought to replace UH-1 helicopter
Costs of space activities rise in proportion to Air Force procurement	Space costs rise sharply
Decrease Costs	
F-16 aircraft retired after 22 years of service	F-16 retained in service longer
New Advanced Tactical Support Aircraft bought to replace S-3A, E-2C, and EA-6B aircraft	Older aircraft modified
Little or no change in unit operating cost	Operation costs decrease because new systems are cheaper to operate

SOURCE: Congressional Budget Office.

Figure A–1. Lower Estimate for Dept. of Defense Budget

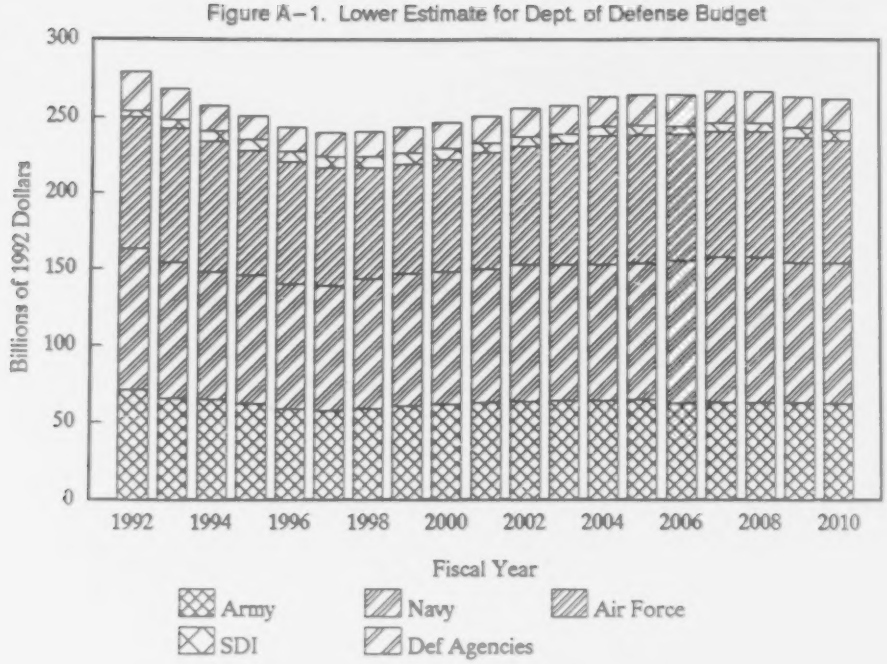
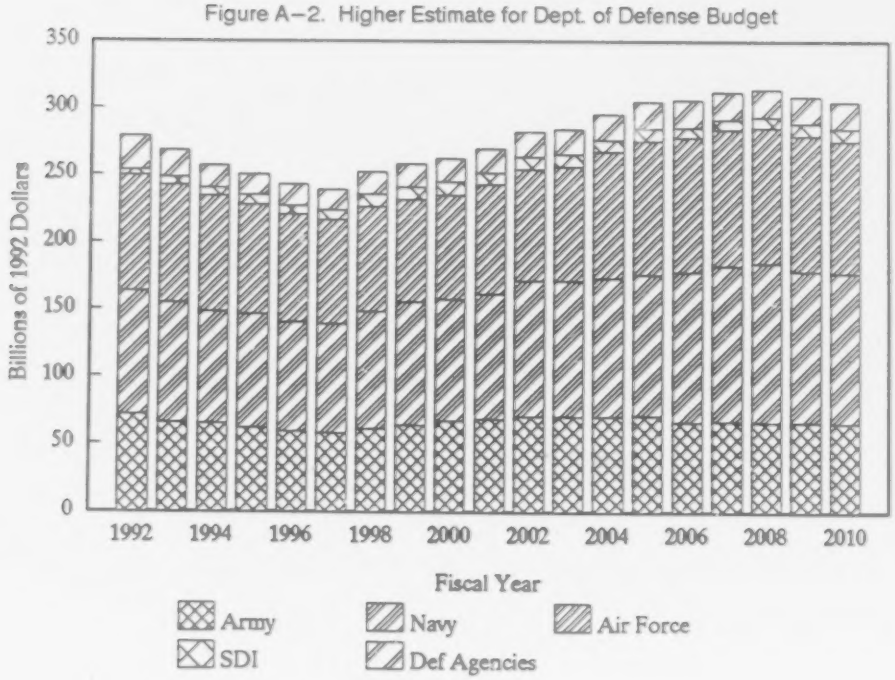


Figure A–2. Higher Estimate for Dept. of Defense Budget



SOURCE: Congressional Budget Office.